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| APPLICATION NO | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO |
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| 09 787,358 | | Philip Marriott | Q63472 | 7859 |

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EXAMINER

QUASH, ANTHONY G

ART UNIT PAPER NUMBER

2881

DATE MAILED: 01/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,358

Applicant(s)

MARRIOTT, PHILIP

Examiner

Anthony Quash

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) 4-12 is/are objected to.
- 8) ☐ Claims ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6
- 18) ☐ Interview Summary (PTO-413) Paper No(s) ____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other:

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claims 4-12 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 5-12 have not been further treated on the merits.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okamoto [739] in view of Micromass [228] and further in view of Javahery [929]. As per claim 1, Okamoto [739] teaches a mass spectrometer for generating ions comprising a sampling aperture, 81, a second aperture, 91, a third aperture, 101, an ion voltage between electrodes 90 and 100 for containing the ion beam. It also teaches a collision cell 120 having aperture 121 separating collision cell 120 from ion beam focusing section; mass to charge analysis means 150, 160, first evacuated ion beam

focusing section; second evacuated charge exchange reaction section; third evacuated ion energy analyzer section. See Okamoto [739] abstract, figs. 1-3, and col. 3 lines 53-62. However, it does not specifically teach the first chamber having a high vacuum. Nor does it teach the pressure in the remaining chambers being lower than the previous chamber. However Micromass [228] does teach consecutive pressure reduction stages as being obvious to one skilled in the art. It also teaches using the vacuum pumps to achieve the desired vacuum and pressures. See Micromass [228] fig. 3, col. 3 lines 44-51 and columns 10-15, especially col. 11 lines 1-8, 25-30. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the turbomolecular pumps suitable for achieving a high vacuum in evacuated chambers and also the pressure ranges in order to aid in passing of the ions to different chambers. Micromass [228] also teaches gas containment means, and use of collision cell in which the ions are confined by a second ion optical device. See Micromass [228] fig. 3, col. 3 lines 44-51 and columns 10-15, especially col. 11 lines 1-8, 25-30.

However, Okamoto [739] nor Micromass [228] teach the use of a third vacuum pump being used to control the vacuum and pressure in a third chamber. Javahery [929] does teach the use of a third vacuum pump being used to control the vacuum and pressure in the third chamber. See Javahery [929] abstract, figs. 1, 9-11. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have a third pump included in the third chamber in order to the control pressure in the third chamber in order to control the transferring of ions from the collision cell to the detector in the third chamber. It would have also been obvious to one skilled in the art

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at the time the invention was made that by controlling the vacuum pressure one could also shorten or lengthen the time between detection signals.

As per claims 2,3, Okamoto [739] in view of Micromass [228] and further in view of Javahery [929] teach all aspects of the claims except for the pressure in the first evacuated chamber being maintained at approximately $10^{**(-2)}$ to $10^{**(-4)}$ mbar, and $1-2 * 10^{**(-3)}$ mbar. It would have been obvious to one of ordinary skill in the art at the time the invention was made to maintain the pressure in the first evacuated chamber at approximately $10^{**(-2)}$ to $10^{**(-4)}$ mbar, and $1-2 * 10^{**(-3)}$ mbar, since it has been held to that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involve only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Quash whose telephone number is (703)-308-6555. The examiner can normally be reached on M-F from 9 a.m. to 5 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dzierzynski, can be reached on (703)-308-4822. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.



A. Quash 12/20/01

Paul Dzierzynski,
Supervisory Patent Examiner,
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